Do we have the right abstractions?

Correspondences (weak semantics)

Constraints (formal semantics)
- Ontology axioms
- (SO) tgd
- sound ($\subseteq$), complete ($\supseteq$), exact (=) constraints

Integration
Query/Update
Rewriting

Peer Sharing
Query/Update
Coordination or Propagation

Exchange
Generate code or transformation programs
Correspondences

• Is there a better abstraction than lines?
  – Data examples?
  – Other visual metaphors?
  – Other ideas?

• Should lines be between full schemas or between “concepts”
Constraints/Mappings

• Is the lack of a common specification language an impediment for:
  – tool development, tool sharing, and benchmarking?

• Extend declarative constraint specifications with
  – ETL operators
  – Process specification (mapping behavior)
  – Process/flow model for mappings (algebra for mappings)
  – To map ontologies to schemas to queries, etc?

• What other standard metadata is necessary?
  – Schema (Model) algebra
  – Mapping algebra
Integration to Exchange

• Is there an architecture in which materialization vs. virtualization is an optimization decision (not a design or tool selection decision)?

• Is materialization vs. virtualization even the right split?